

SGCN and Habitat Stressors

Level 1 Threat Transportation and Service Corridors

Level 2 Threat: Roads and Railroads

Description: Surface transport on roadways and dedicated tracks

Species Associated With This Stressor:

Total SGCN: 1: 16 2: 24 3:

| Class | <i>Actinopterygii</i> (Ray-finned Fishes) | SGCN Category |
|--|---|---------------|
| Species: <i>Alosa pseudoharengus</i> (Alewife) | | 2 |
| Severity: Severe | Actionability: Moderately actionable | |
| Notes: | The majority of the current road/railroad crossings pose some passage problems because they are undersized or hanging during at least some portion of the tide or seasonal flow regime. 'Actionability' is moderate because culverts must be replaced and can be constructed to allow passage, but sometimes are not. Also must wait until the culvert is in need of replacement in most cases which can be 20-30 years. Likelihood is moderate because construction can allow passage. Certainty is low. Spatial extent is high within spawning range. | |
| Species: <i>Anguilla rostrata</i> (American Eel) | | 2 |
| Severity: Moderate Severity | Actionability: Moderately actionable | |
| Notes: | Road/Stream crossing improvements can greatly facilitate habitat accessibility for this species, however improvements difficult to implement unless culverts fail or very strong local support and budget | |
| Species: <i>Alosa sapidissima</i> (American Shad) | | 1 |
| Severity: Severe | Actionability: Moderately actionable | |
| Notes: | The majority of the current road/railroad crossings pose some passage problems because they are undersized or hanging during at least some portion of the tide or seasonal flow regime. 'Actionability' is moderate because culverts must be replaced and can be constructed to allow passage, but sometimes are not. Also must wait until the culvert is in need of replacement in most cases which can be 20-30 years. Likelihood is moderate because construction can allow passage. Certainty is low. Spatial extent is high within spawning range. | |
| Species: <i>Salmo salar</i> (Atlantic Salmon) | | 1 |
| Severity: Severe | Actionability: Moderately actionable | |
| Notes: | Current road crossings within Atlantic habitat pose some passage problems because they are barriers to upstream passage, impound water, and alter the natural stream. In some instance, railroad crossing of stream are also passage barriers. 'Actionability' is moderate because culverts must be replaced and can be constructed to allow passage, but sometimes are not. Also must wait until the culvert is in need of replacement in most cases which can be 20-30 years. Likelihood is moderate because construction can allow passage. Certainty is low. Spatial extent is entire state of Maine. | |
| Species: <i>Alosa aestivalis</i> (Blueback Herring) | | 1 |
| Severity: Severe | Actionability: Moderately actionable | |
| Notes: | The majority of the current road/railroad crossings pose some passage problems because they are undersized or hanging during at least some portion of the tide or seasonal flow regime. 'Actionability' is moderate because culverts must be replaced and can be constructed to allow passage, but sometimes are not. Also must wait until the culvert is in need of replacement in most cases which can be 20-30 years. Likelihood is moderate because construction can allow passage. Certainty is low. Spatial extent is high within spawning range. | |
| Species: <i>Notropis bifrenatus</i> (Bridle Shiner) | | 2 |
| Severity: Moderate Severity | Actionability: Moderately actionable | |
| Notes: | Sedimentation and siltation from road run-off is a concern. BDS are known to be affected by poor water quality associated with sedimentation and siltation of habitats. | |
| Species: <i>Coregonus clupeaformis</i> (Lake Whitefish) | | 2 |
| Severity: Moderate Severity | Actionability: Highly actionable | |
| Notes: | Undersized road stream crossings contribute to increased sedimentations and are potential barriers to fish movements, ie for spawning. | |

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| Class | <i>Actinopterygii</i> (Ray-finned Fishes) | SGCN Category |
|--|--|---------------|
| Species: <i>Osmerus mordax</i> (Rainbow Smelt) | | 1 |
| Severity: Severe | Actionability: Moderately actionable | |
| Notes: Most current road/railroad crossings within smelt habitat pose some passage problems because they are undersized or hanging during at least part of the tide cycle (most always hanging). 'Actionability' is moderate because culverts must be replaced and can be constructed to allow passage, but sometimes are not. Also must wait until the culvert is in need of replacement in most cases which can be 20-30 years. Likelihood is moderate because construction can allow passage. Certainty is low. Spatial extent is high within smelt spawning range. | | |
| Species: <i>Esox americanus americanus</i> (Redfin Pickerel) | | 2 |
| Severity: Moderate Severity | Actionability: Highly actionable | |
| Notes: Improving connectivity at road/stream crossings may allow RPK to colonize proximal habitats and move to better quality habitats as conditions change; however, the intrusion of additional fish species (whether native or non-native) is likely problematic for this species. | | |
| Species: <i>Prosopium cylindraceum</i> (Round Whitefish) | | 2 |
| Severity: Moderate Severity | Actionability: Highly actionable | |
| Notes: Undersized road stream crossings contribute to increased sedimentations and are potential barriers to fish movements, ie for spawning. | | |
| Class | <i>Amphibia</i> (Amphibians) | SGCN Category |
| Species: <i>Ambystoma laterale</i> (Blue-spotted Salamander) | | 2 |
| Severity: Moderate Severity | Actionability: Moderately actionable | |
| Notes: Road kill near high value vernal pools and swamps | | |
| Species: <i>Lithobates pipiens</i> (Northern Leopard Frog) | | 2 |
| Severity: Moderate Severity | Actionability: Moderately actionable | |
| Notes: Roadkill at high value wetland causeways | | |
| Class | <i>Bivalvia</i> (Marine And Freshwater Molluscs) | SGCN Category |
| Species: <i>Alasmidonta varicosa</i> (Brook Floater) | | 1 |
| Severity: Moderate Severity | Actionability: Moderately actionable | |
| Notes: In riparian zone where forest canopy is lost or degraded; in stream corridor where stream banks, bottom or water quality are impacted (e.g., bridge crossings, road improvements/maintenance); impacts to fish host distribution from culverts | | |
| Species: <i>Leptodea ochracea</i> (Tidewater Mucket) | | 1 |
| Severity: Moderate Severity | Actionability: Moderately actionable | |
| Notes: In riparian zone where forest canopy is lost or degraded; in stream corridor where stream banks, bottom or water quality are impacted (e.g., bridge crossings, road improvements/maintenance); impacts to fish host distribution from culverts | | |
| Species: <i>Lampsilis cariosa</i> (Yellow Lampmussel) | | 1 |
| Severity: Moderate Severity | Actionability: Moderately actionable | |
| Notes: In riparian zone where forest canopy is lost or degraded; in stream corridor where stream banks, bottom or water quality are impacted (e.g., bridge crossings, road improvements/maintenance); impacts to fish host distribution from culverts | | |
| Class | <i>Insecta</i> (Insects) | SGCN Category |

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| Class | <i>Insecta</i> (Insects) | SGCN Category |
|--|---|---------------|
| Species: <i>Siphonurus barbarus</i> (A Mayfly) | | 2 |
| Severity: Moderate Severity | Actionability: Moderately actionable | |
| Notes: In riparian zone where forest canopy is lost or degraded or water quality is impacted; in stream corridor where bridge crossing impacts stream banks, bottom or water quality | | |
| Species: <i>Siphonurus demaryi</i> (A Mayfly) | | 2 |
| Severity: Moderate Severity | Actionability: Moderately actionable | |
| Notes: In riparian zone where forest canopy is lost or degraded or water quality is impacted; in stream corridor where bridge crossing impacts stream banks, bottom or water quality | | |
| Species: <i>Chaetagnathia cerata</i> (A Noctuid Moth) | | 2 |
| Severity: Moderate Severity | Actionability: Moderately actionable | |
| Notes: Habitat loss and fragmentation; pine barren habitat is prime land for development in southern ME | | |
| Species: <i>Bombus pensylvanicus</i> (American Bumble Bee) | | 2 |
| Severity: Moderate Severity | Actionability: Actionable with difficulty | |
| Notes: Collision with vehicles; habitat loss and fragmentation | | |
| Species: <i>Bombus ashtoni</i> (Ashton's Cuckoo Bumble Bee) | | 2 |
| Severity: Moderate Severity | Actionability: Actionable with difficulty | |
| Notes: Collision with vehicles; habitat loss and fragmentation | | |
| Species: <i>Speranza exonerata</i> (Barrens Itame) | | 2 |
| Severity: Moderate Severity | Actionability: Moderately actionable | |
| Notes: Habitat loss and fragmentation; pine barren habitat is prime land for development in southern ME | | |
| Species: <i>Metarranthia apiciaria</i> (Barrens Metarranthia Moth) | | 2 |
| Severity: Moderate Severity | Actionability: Moderately actionable | |
| Notes: Habitat loss and fragmentation; pine barren habitat is prime land for development in southern ME | | |
| Species: <i>Lycaena dorcas claytoni</i> (Clayton's Copper) | | 2 |
| Severity: Moderate Severity | Actionability: Moderately actionable | |
| Notes: Habitat loss and fragmentation; alteration of wetland hydrology | | |
| Species: <i>Hemileuca maia maia</i> (Eastern Buckmoth) | | 2 |
| Severity: Moderate Severity | Actionability: Moderately actionable | |
| Notes: Habitat loss and fragmentation; pine barren habitat is prime land for development in southern ME | | |
| Species: <i>Satyrium edwardsii</i> (Edwards' Hairstreak) | | 2 |
| Severity: Moderate Severity | Actionability: Moderately actionable | |
| Species: <i>Bombus insularis</i> (Indiscriminate Cuckoo Bumble Bee) | | 2 |
| Severity: Moderate Severity | Actionability: Actionable with difficulty | |
| Notes: Collision with vehicles; habitat loss and fragmentation | | |
| Species: <i>Zanclognatha martha</i> (Pine Barrens Zanclognatha) | | 1 |
| Severity: Moderate Severity | Actionability: Moderately actionable | |
| Notes: Habitat loss and fragmentation; pine barren habitat is prime land for development in southern ME | | |
| Species: <i>Citheronia sepulchralis</i> (Pine Devil) | | 2 |
| Severity: Moderate Severity | Actionability: Moderately actionable | |
| Notes: Habitat loss and fragmentation; pine barren habitat is prime land for development in southern ME | | |

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| Class | <i>Insecta</i> (Insects) | SGCN Category |
|---|---|---------------|
| Species: <i>Psestraglaea carnosae</i> (Pink Sallow) | | 2 |
| Severity: Moderate Severity | Actionability: Moderately actionable | |
| Notes: Habitat loss and fragmentation; pine barren habitat is prime land for development in southern ME | | |
| Species: <i>Williamsonia lintneri</i> (Ringed Boghaunter) | | 1 |
| Severity: Moderate Severity | Actionability: Actionable with difficulty | |
| Notes: Roadkill at certain causeways | | |
| Species: <i>Bombus affinis</i> (Rusty-patched Bumble Bee) | | 1 |
| Severity: Moderate Severity | Actionability: Actionable with difficulty | |
| Notes: Collisions with vehicles | | |
| Species: <i>Erynnis brizo</i> (Sleepy Duskywing) | | 2 |
| Severity: Moderate Severity | Actionability: Moderately actionable | |
| Species: <i>Siphonisca aerodromia</i> (Tomah Mayfly) | | 1 |
| Severity: Moderate Severity | Actionability: Moderately actionable | |
| Notes: In riparian zone where forest canopy is lost or degraded or water quality is impacted; in stream corridor where bridge crossing impacts stream banks, bottom or water quality | | |
| Species: <i>Lycia rachelae</i> (Twilight Moth) | | 2 |
| Severity: Moderate Severity | Actionability: Moderately actionable | |
| Notes: Habitat loss and fragmentation; pine barren habitat is prime land for development in southern ME | | |
| Class | <i>Mammalia</i> (Mammals) | SGCN Category |
| Species: <i>Sylvilagus transitionalis</i> (New England Cottontail) | | 1 |
| Severity: Moderate Severity | Actionability: Moderately actionable | |
| Notes: Busy highways such as I-95 can be a barrier to dispersal; however, rabbits can use brushy habitat along the sides of roads for dispersal. Removing all brushy cover from roads is bad for rabbits. | | |
| Class | <i>Reptilia</i> (Reptiles) | SGCN Category |
| Species: <i>Emydoidea blandingii</i> (Blanding's Turtle) | | 1 |
| Severity: Severe | Actionability: Moderately actionable | |
| Notes: Mortality from vehicle collisions on roads is major threat and roads also contribute to the loss, degradation, and fragmentation of habitat | | |
| Species: <i>Thamnophis sauritus</i> (Eastern Ribbon Snake) | | 2 |
| Severity: Moderate Severity | Actionability: Moderately actionable | |
| Notes: Direct mortality from vehicles and fragmentation/degradation of habitat may result | | |
| Species: <i>Coluber constrictor constrictor</i> (Northern Black Racer) | | 1 |
| Severity: Severe | Actionability: Moderately actionable | |
| Notes: Direct mortality from vehicles on roadways can threaten populations where roads bisect habitat | | |
| Species: <i>Clemmys guttata</i> (Spotted Turtle) | | 1 |
| Severity: Severe | Actionability: Moderately actionable | |
| Notes: Mortality from vehicle collisions on roads is major threat and roads also contribute to the loss, degradation, and fragmentation of habitat | | |
| Species: <i>Glyptemys insculpta</i> (Wood Turtle) | | 1 |
| Severity: Severe | Actionability: Moderately actionable | |
| Notes: Mortality from vehicle collisions on roads is major threat and roads also contribute to the loss, degradation, and fragmentation of habitat | | |

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Habitats Associated With This Stressor:

Macrogroup Agricultural

Habitat System Name: Pasture-Hay

Notes: Roads are a fragmenting feature in pastures

Macrogroup Boreal Upland Forest

Habitat System Name: Acadian Low Elevation Spruce-Fir-Hardwood Forest

Notes: Impacts of logging roads generally lower than public paved roads; depends on the species, type of road etc.

Habitat System Name: Acadian Sub-boreal Spruce Flat

Notes: Impacts of logging roads generally lower than public paved roads; depends on the species, type of road etc.

Habitat System Name: Acadian-Appalachian Montane Spr-Fir-Hwd Forest

Notes: Impacts of logging roads generally lower than public paved roads; depends on the species, type of road etc.

Habitat System Name: Boreal Jack Pine-Black Spruce Forest

Notes: Impacts of logging roads generally lower than public paved roads; depends on the species, type of road etc.

Macrogroup Central Hardwood Swamp

Habitat System Name: North-Central Interior Wet Flatwoods

Notes: Fragmentation from roads is highest in southern and coastal ME

Macrogroup Central Oak-Pine

Habitat System Name: Central Appalachian Dry Oak-Pine Forest

Notes: Fragmentation from roads is highest in southern and coastal ME

Habitat System Name: Central Appalachian Pine-Oak Rocky Woodland

Notes: Fragmentation from roads is highest in southern and coastal ME

Habitat System Name: North Atlantic Coastal Plain Hardwood Forest

Notes: Fragmentation from roads is highest in southern and coastal ME

Habitat System Name: North Atlantic Coastal Plain Maritime Forest

Notes: Fragmentation from roads is highest in southern and coastal ME

Habitat System Name: Northeastern Interior Pine Barrens

Notes: Fragmentation from roads is highest in southern and coastal ME

Macrogroup Coastal Grassland & Shrubland

Habitat System Name: Northern Atlantic Coastal Plain Dune and Maritime Grassland

Notes: New roads not very likely in these habitats, but impacts of existing roads continue

Habitat System Name: Northern Atlantic Coastal Plain Sandy Beach

Notes: New roads not very likely in these habitats, but impacts of existing roads continue

Macrogroup Coastal Plain Peat Swamp

Habitat System Name: North Atlantic Coastal Plain Basin Peat Swamp

Notes: Many AWC Swamps are conserved, but those in private ownership remain vulnerable due to relatively high development in southern and coastal ME

Macrogroup Emergent Marsh

Habitat System Name: Laurentian-Acadian Freshwater Marsh

Notes: Roads have direct (habitat loss, road kill) and indirect (run off, barriers to migration) impacts to marsh habitat

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Macrogroup Glade, Barren and Savanna

Habitat System Name: Central Appalachian Alkaline Glade and Woodland

Notes: level of fragmentation depends on species affected

Macrogroup Intertidal Mudflat

Habitat System Name: Freshwater Tidal Marsh

Notes: Causeways built across mudflats reduce water flow, larval dispersion of mud flat species (e.g. Clams), and affect sediment flushing

Habitat System Name: Non-Vascular Mudflat

Notes: Causeways built across mudflats reduce water flow, larval dispersion of mud flat species (e.g. Clams), and affect sediment flushing

Habitat System Name: Submerged Aquatic Vegetation

Notes: Causeways built across mudflats reduce water flow, larval dispersion of mud flat species (e.g. Clams), and affect sediment flushing

Macrogroup Intertidal Tidal Marsh (peat-forming)

Habitat System Name: Acadian Coastal Salt Marsh

Notes: Several crossings of tidal marshes by roads in Maine; sedimentation and deposition of metals are possible

Habitat System Name: Coastal Plain Tidal Marsh

Notes: Several crossings of tidal marshes by roads in Maine; sedimentation and deposition of metals are possible

Macrogroup Lakes and Ponds

Habitat System Name: Vernal Pool

Notes: Roads have direct (habitat loss, road kill) and indirect (run off, barriers to migration) impacts to vernal pool habitat

Macrogroup Northeastern Floodplain Forest

Habitat System Name: Laurentian-Acadian Floodplain Systems

Notes: Many floodplains are bordered by roads, resulting in runoff

Macrogroup Northern Hardwood & Conifer

Habitat System Name: Appalachian (Hemlock)-Northern Hardwood Forest

Notes: Fragmentation from roads is highest in southern and coastal ME

Habitat System Name: Laurentian-Acadian Northern Hardwoods Forest

Notes: Fragmentation from roads is highest in southern and coastal ME

Habitat System Name: Laurentian-Acadian Pine-Hemlock-Hardwood Forest

Notes: Fragmentation from roads is highest in southern and coastal ME

Habitat System Name: Laurentian-Acadian Red Oak-Northern Hardwood Forest

Notes: Fragmentation from roads is highest in southern and coastal ME

Habitat System Name: Northeastern Coastal and Interior Pine-Oak Forest

Notes: Fragmentation from roads is highest in southern and coastal ME

Macrogroup Northern Peatland & Fens

Habitat System Name: Acadian Maritime Bog

Notes: Logging roads unlikely in open peatlands but possible in forested peatlands

Habitat System Name: Boreal-Laurentian Bog

Notes: Logging roads unlikely in open peatlands but possible in forested peatlands

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Macrogroup Northern Peatland & Fens

Habitat System Name: Boreal-Laurentian-Acadian Acidic Basin Fen

Notes: Logging roads unlikely in open peatlands but possible in forested peatlands

Habitat System Name: Laurentian-Acadian Alkaline Fen

Notes: Logging roads unlikely in open peatlands but possible in forested peatlands

Habitat System Name: North-Central Interior and Appalachian Acidic Peatland

Notes: Logging roads unlikely in open peatlands but possible in forested peatlands

Macrogroup Northern Swamp

Habitat System Name: Acadian-Appalachian Conifer Seepage Forest

Notes: Roads may impede water flowage in seepage forests

Habitat System Name: Laurentian-Acadian Alkaline Conifer-Hardwood Swamp

Notes: Roads may impede water flowage in seepage forests

Habitat System Name: North-Central Appalachian Acidic Swamp

Notes: Roads may impede water flowage in seepage forests

Habitat System Name: North-Central Interior and Appalachian Rich Swamp

Notes: Roads may impede water flowage in seepage forests

Habitat System Name: Northern Appalachian-Acadian Conifer-Hardwood Acidic Swamp

Notes: Roads may impede water flowage in seepage forests

Macrogroup Rivers and Streams

Habitat System Name: Ephemeral

Notes: Faulty culverts affect hydrology and impede passage of aquatic organisms

Habitat System Name: Headwaters and Creeks

Notes: Stream crossings can have direct (habitat loss, barriers to aquatic organisms) and indirect (road kill, run off) impacts

Habitat System Name: Small River

Notes: Faulty culverts affect hydrology and impede passage of aquatic organisms

Macrogroup Ruderal Shrubland & Grassland

Habitat System Name: Introduced Shrubland

Habitat System Name: Powerline Right-of-Way

Habitat System Name: Ruderal Upland - Old Field

Macrogroup Subtidal Pelagic (Water Column)

Habitat System Name: Confined Channel

Notes: Where roads and railroads cut off tidal flow the habitat is completely altered and fish passage obstructed. Undersized culverts are generally constructed at head of tide and can reduce area of tidal marshes and limit fish passage.

Habitat System Name: Nearshore

Notes: Where roads and railroads cut off tidal flow the habitat is completely altered and fish passage obstructed. Undersized culverts are generally constructed at head of tide and can reduce area of tidal marshes and limit fish passage.

Habitat System Name: Offshore

Notes: Where roads and railroads cut off tidal flow the habitat is completely altered and fish passage obstructed. Undersized culverts are generally constructed at head of tide and can reduce area of tidal marshes and limit fish passage.

Habitat System Name: Upwelling Zones

Notes: Where roads and railroads cut off tidal flow the habitat is completely altered and fish passage obstructed. Undersized culverts are generally constructed at head of tide and can reduce area of tidal marshes and limit fish passage.

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Macrogroup Wet Meadow-Shrub Marsh

Habitat System Name: Introduced Wetland and Riparian Vegetation

Notes: Both direct (habitat loss, changes to hydrology) and indirect (roadkill, runoff) impacts possible

Habitat System Name: Laurentian-Acadian Wet Meadow-Shrub Swamp

Notes: Both direct (habitat loss, changes to hydrology) and indirect (roadkill, runoff) impacts possible

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The Wildlife Action Plan was developed through a lengthy participatory process with state agencies, targeted conservation partners, and the general public. The Plan is non-regulatory. The species, stressors, and voluntary conservation actions identified in the Plan complement, but do not replace, existing work programs and priorities by state agencies and partners.